WINZLER & KELLY
CONSULTING ENGINEERS

Ref: 02343-05001-32003

August 4, 2005

Dr. Richard Mani
8 Pelican Point Road
Belvedere, CA 94920

Re: Quarterly Groundwater Monitoring Report – Second Quarter 2005, Mani Site, 200 Talmadge Drive, Santa Rosa, California, NCRWQCB Case No. 1TSR279

Dear Dr. Mani:

Winzler & Kelly Consulting Engineers' (Winzler & Kelly) presents this report summarizing the results of groundwater monitoring and sampling activities performed on June 9 and 13, 2005, at 200 Talmadge Drive, Santa Rosa, California (Figures 1 and 2).

GROUNDWATER MONITORING AND SAMPLING ACTIVITIES

The Site-Specific Sampling Procedures, provided in Appendix A, describe in detail all of the monitoring and sampling activities that were performed at the site on June 9 and 13, 2005. A brief summary of these activities is also provided below.

FIELD ACTIVITIES

Personnel Present: Winzler & Kelly's Environmental Engineer, Pon Xayasaeng, performed all the groundwater monitoring and sampling activities.

Dissolved Oxygen: Dissolved oxygen (DO) concentrations were measured on June 9, 2005, in each monitoring well at the site. The measurements were obtained using a calibrated DO meter while the biosparge system was operating.

Biosparge Shutdown: The biosparge system was shutdown on June 9, 2005, after DO measurements had been obtained to allow groundwater levels to equilibrate.

Depth-to-Water: The depth-to-groundwater (DTW) was measured in each monitoring well on June 9, 2005, while the biosparge system was operating. DTW was measured again on June 13, 2005, while the biosparge system was turned off and groundwater levels had equilibrated. The measurements were obtained using an electronic water level meter. DTW measured

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in monitoring well MW-6 on June 9, 2005, was recorded incorrectly; therefore, the data is inaccurate and not included in the table.

Purging: Purging of each monitoring well at the site on June 13, 2005, was performed using an electronic 12-volt 1.5-inch submersible pump. A copy of each well sampling data sheet is provided in Appendix B.

Groundwater Sampling: Groundwater samples were collected on June 13, 2005, from each monitoring well at the site. The groundwater samples were collected using new disposable bailers, which were used to transfer groundwater into the appropriate laboratory-supplied, certified clean sample containers.

Chemical Analysis: Analytical Sciences Laboratory (Analytical Sciences) of Petaluma, California (a California-certified laboratory) analyzed the June 13, 2005 groundwater samples for total petroleum hydrocarbons as gasoline (TPH-G) and as diesel (TPH-D) by EPA Method 8015M, for benzene, toluene, ethyl benzene, and total xylenes (BTEX) and oxygenated fuel additives by EPA Method 8260B, for Nitrite as Nitrogen, Nitrate as Nitrogen, and Phosphate by EPA Method 300, and for Ammonia as Nitrogen by SM 4500.

GROUNDWATER MONITORING AND SAMPLING RESULTS

The groundwater elevation data and groundwater flow direction are presented in Tables 1 and 2. A groundwater contour map illustrating the groundwater elevation contours at the site on June 13, 2005, is provided as Figure 3. As shown on Figure 3, the groundwater at the site was flowing toward the west-southwest at an approximate gradient of 0.02 ft/ft.

The DO concentrations measured on June 9, 2005, indicate that the biosparge system is effectively introducing oxygen into the aquifer downgradient of the former underground storage tanks (USTs). The DO results are summarized in Table 3. The only exception to this is monitoring well MW-5 where DO concentrations have not increased from the background levels measured prior to installation of the biosparge system. However, TPH-G and methyl tert-butyl ether (MTBE) concentrations have continually decreased; therefore, it is likely that oxygen is being depleted prior to reaching MW-5. Oxidation reduction potential (ORP) levels vary considerably between quarters and between wells. Thus, the data is unreliable and ORP measurements will be discontinued.

Nutrient monitoring has been conducted on a quarterly basis since the first nutrient injection performed on September 22, 2004. The purpose of the nutrient injections is to increase intrinsic

aerobic biodegradation and decrease the cleanup time. Nutrient monitoring is completed to observe changes in nutrient concentrations and biodegradation activity.

The analytical results of the June 13, 2005 groundwater samples indicated low concentrations of nitrate as nitrogen in the monitoring wells at the site. Nitrite as nitrogen, ammonia as nitrogen, and phosphate were not detected in any of the groundwater samples. The results are summarized in Table 4.

The low concentrations of nutrients indicate that additional nutrient injections are needed in order to speed up the remediation. Winzler & Kelly will begin conducting nutrient injections into sparge points SP-2 through SP-5 on a quarterly basis, in the same month as future monitoring and sampling activities.

The analytical results of the June 13, 2005 groundwater samples from monitoring well MW-1 indicated the lowest concentrations of contaminants detected in this well to date. The biosparge system has been operating efficiently for approximately five months, and in that time the concentrations of MTBE and ethyl benzene in MW-1 have been reduced to below the Regional Water Board's Water Quality Objectives, while benzene and xylenes have been significantly reduced and are nearing their respective Water Quality Objectives.

The analytical results of the June 13, 2005 groundwater samples from monitoring wells MW-4 and MW-5 indicate that TPH-G is the only contaminant above the Regional Water Board's Water Quality Objectives. The analytical results of the four quarters of sampling conducted in monitoring wells MW-4 and MW-5 since the start-up of the biosparge system have indicated that MTBE has been reduced to below the Regional Water Board's Water Quality Objective.

The laboratory analysis of the groundwater samples collected on June 13, 2005, from monitoring wells MW-2 and MW-6, did not quantify any petroleum related hydrocarbons above the laboratory's reportable detection limits. Monitoring wells MW-2 and MW-6 are located upgradient and crossgradient of the former USTs, respectively. The analytical results are summarized in Table 5. A summary of the analytical results of TPH-G, benzene, and MTBE on June 13, 2005, is also provided on Figure 4.

The laboratory QA/QC included the use of method blanks to exclude false-positive analyses and the use of laboratory control samples to evaluate the percentage recovery of known analyte spikes. The recovery percentages for all of the sample analytes were within acceptable ranges. COCs were not detected in the analysis of the trip blank. The complete laboratory report, QA/QC data, and the chain-of-custody form are included in Appendix C.

GeoTracker Data Entry

As required by Assembly Bill AB2886, Winzler & Kelly has submitted the June 16, 2005 Quarterly Groundwater Monitoring Report – First Quarter 2005 and Semi-Annual Biosparge System Update, as well as the EDF report and well measurement file for the June 13, 2005 groundwater sampling event to the GeoTracker database. Copies of the submittal verifications are included in Appendix D. Winzler & Kelly will submit a copy of this report to the GeoTracker database upon completion.

Recommendations

Winzler & Kelly will continue to perform quarterly groundwater monitoring, nutrient injection, and sampling activities at the site. The Third Quarter 2005 monitoring and sampling event is scheduled for September 2005.

Site Update

The new and larger compressor has been received and will be installed by the end of this quarter. In addition, nutrient injection and nitrate monitoring will be completed in third quarter of 2005.

Should you have any questions or comments regarding this project, please contact Ms. Elizabeth Cargay, Project Manager, at (707) 523-1010.

Sincerely,
WINZLER & KELLY

Pon Xayasaeng
Environmental Engineer

Kent O'Brien, PG, CEG
Senior Project Geologist

PROFESSIONAL GEOLOGIST
KENT O BRIEN
No. 2132
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

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Attachments

Figures:

Figure 1 – Vicinity Map
Figure 2 – Site Map
Figure 3 – Groundwater Contour Map
Figure 4 – Petroleum Hydrocarbon Concentrations in Groundwater

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Table 1 – Water Level Data and Well Construction Details
Table 2 – Groundwater Gradient and Flow Direction
Table 3 – Dissolved Oxygen and Indicator Parameters
Table 4 – Analytical Results of Nutrient Compounds
Table 5 – Analytical Results of Groundwater Samples

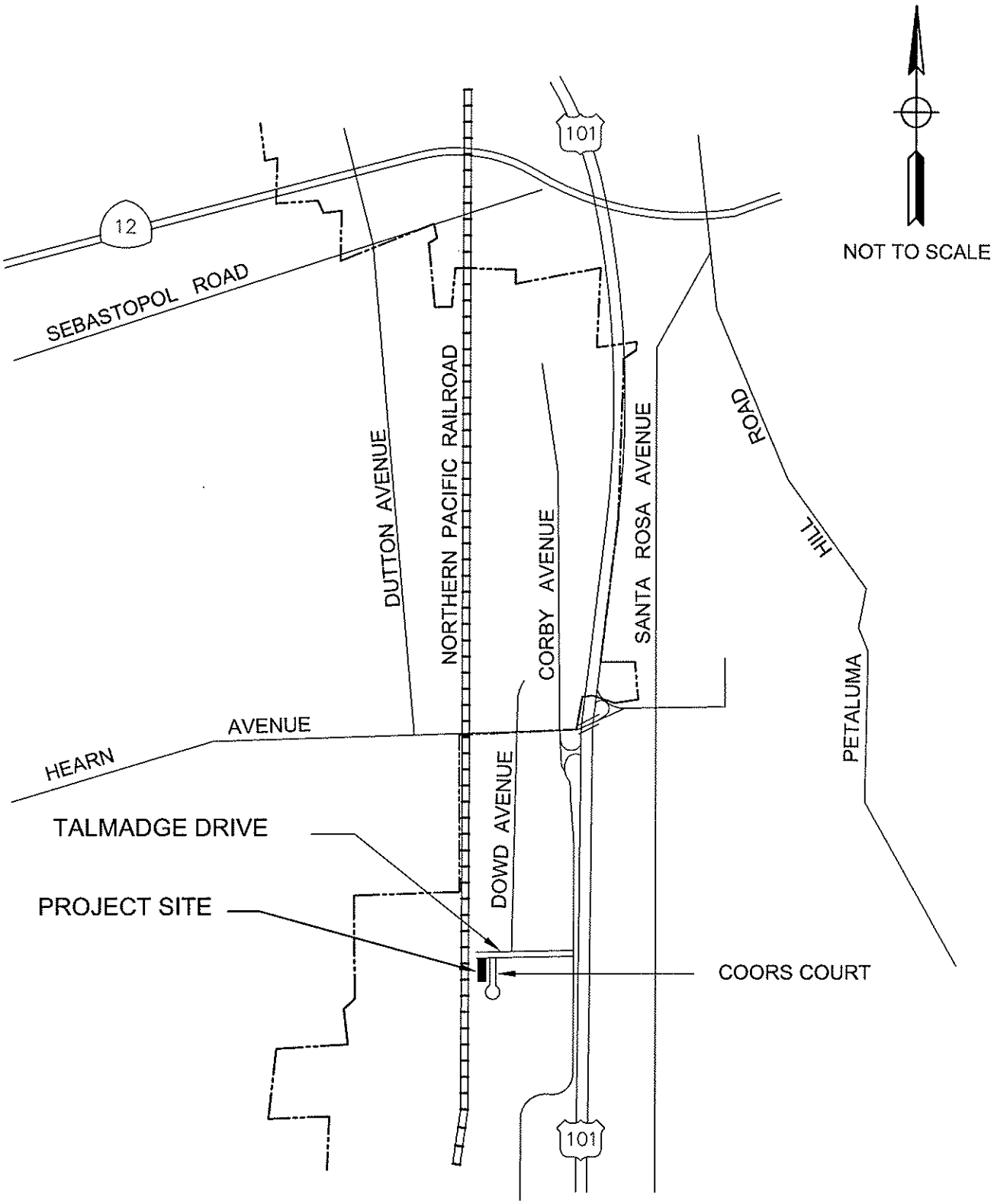
Appendices:

Appendix A – Site-Specific Sampling Procedures
Appendix B – Well Sampling Data Sheets
Appendix C – Analytical Laboratory Report
Appendix D – GeoTracker Upload Verifications

c: Mr. Jim Tischler, North Coast Regional Water Quality Control Board, 5550 Skylane Boulevard, Suite A, Santa Rosa, CA 95403

Mr. Don Wehr, 1839 Bella Vista Avenue, Santa Rosa, CA 95403

Figures



VICINITY MAP
MANI SITE
200 TALMADGE DRIVE
SANTA ROSA, CA
FIGURE 1

WINZLER & KELLY
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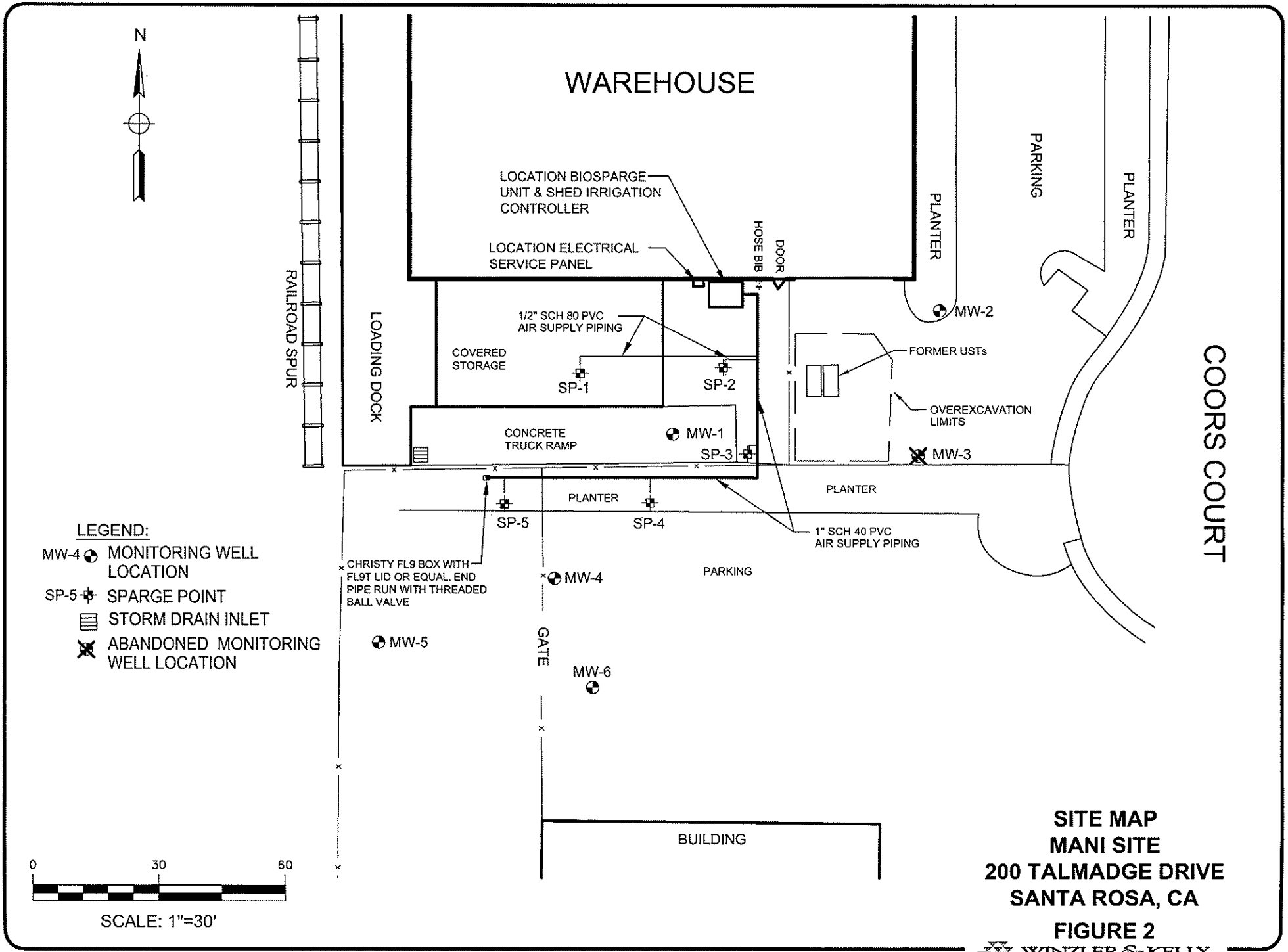

SITE MAP
MANI SITE
200 TALMADGE DRIVE
SANTA ROSA, CA

FIGURE 2

WINZLER & KELLY

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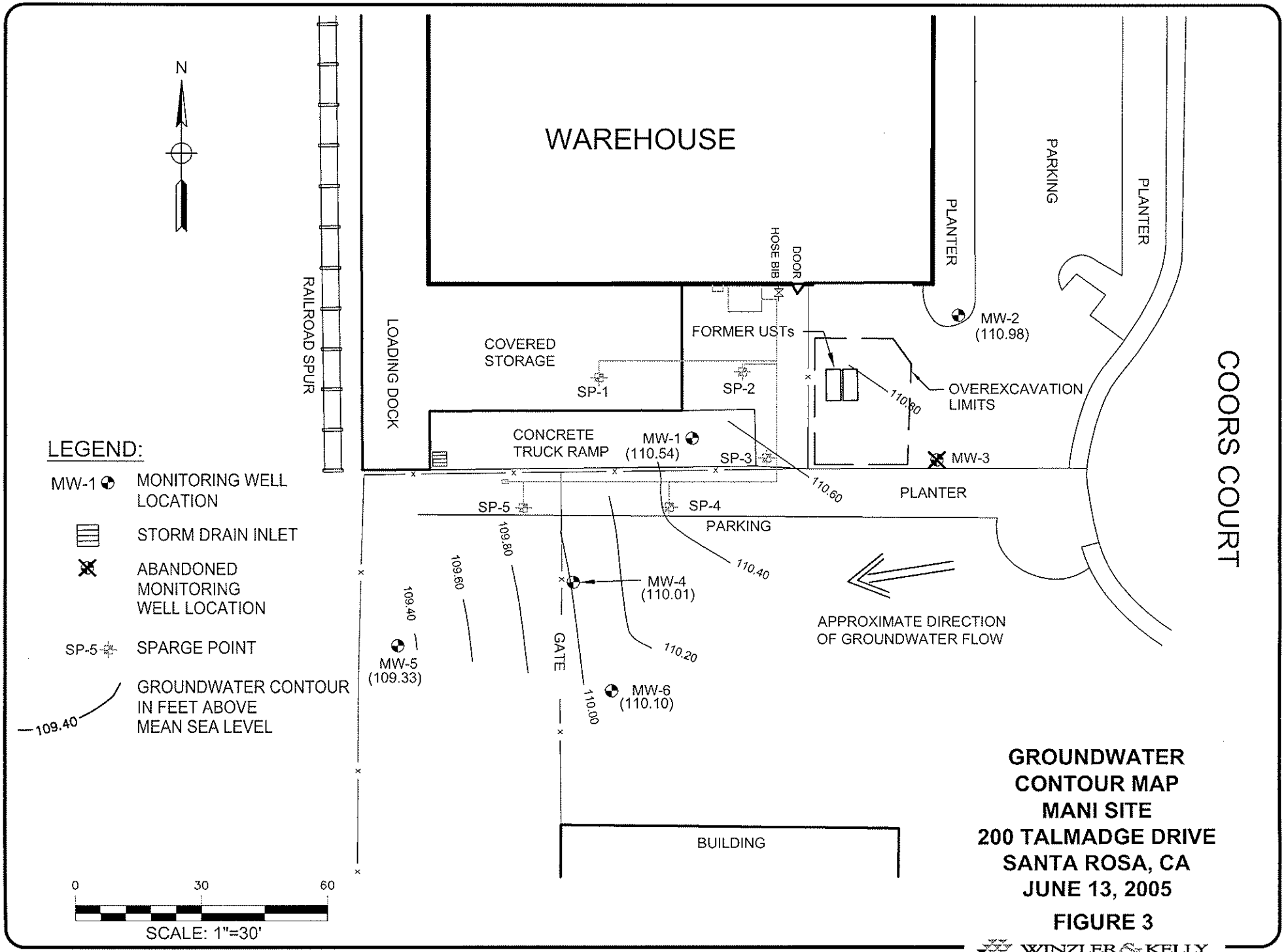

GROUNDWATER CONTOUR MAP
MANI SITE
200 TALMADGE DRIVE
SANTA ROSA, CA
JUNE 13, 2005

FIGURE 3

WINZLER & KELLY
CONSULTING ENGINEERS

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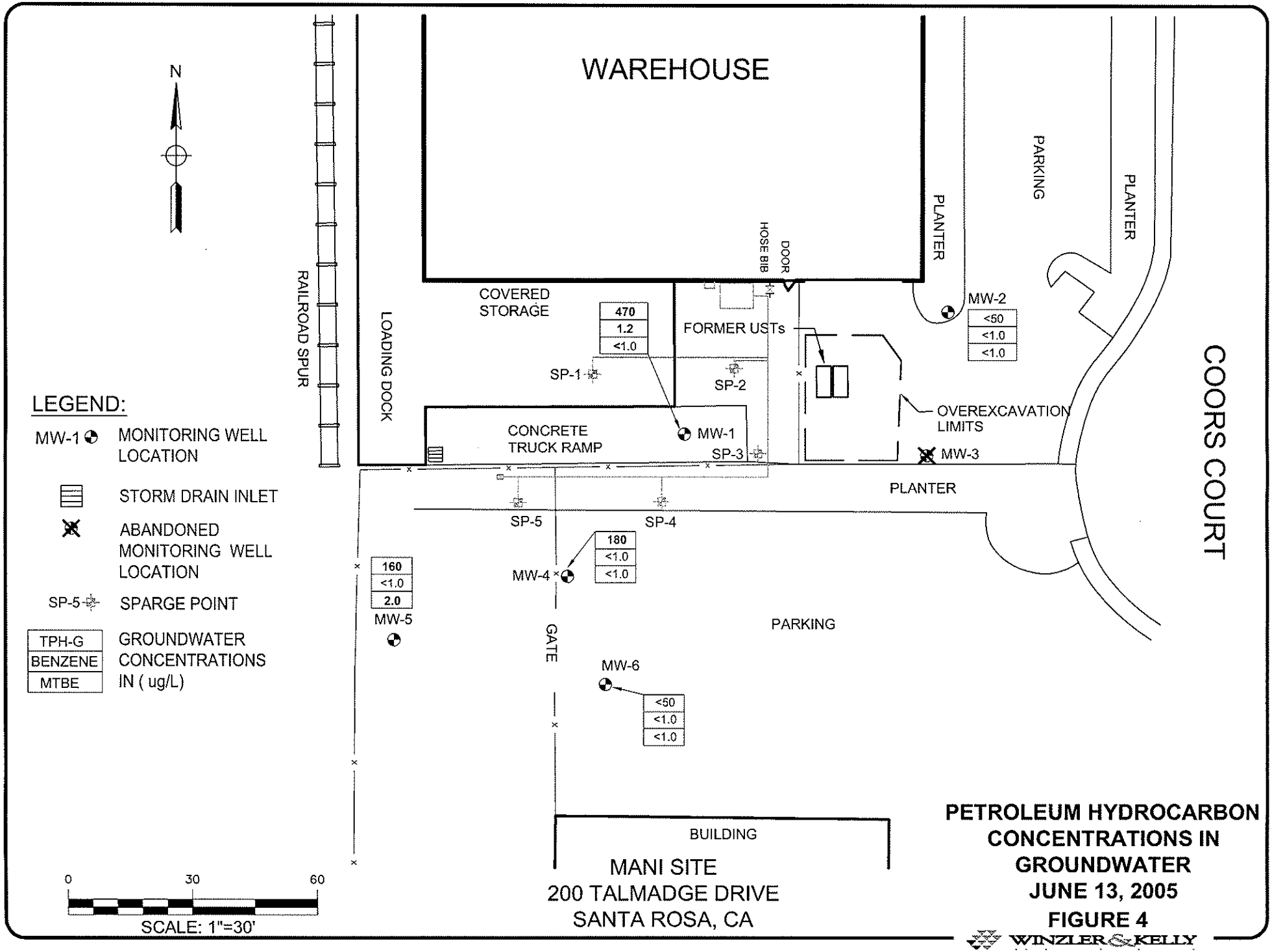

Tables

Table 1. Water Level Data and Well Construction Details

Mani Site

200 Talmadge Drive, Santa Rosa, California

Well ID	Date	Groundwater Elevation (Mean Sea Level)		Depth-to-Water		Top of Casing Elevation (Mean Sea Level)	Free Product Thickness	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval
		System On	System Off	System On	System Off		feet			
MW-1	2/2/1995	NM	110.41	NM	8.25	118.66	-	10.0-25.0	8.0-25.0	6.0-8.0
	3/19/1998	NM	111.51	NM	7.15		-			
	9/9/1999	NM	106.31	NM	12.35		-			
	10/11/1999	NM	105.65	NM	13.01		-			
	11/17/1999	NM	105.24	NM	13.42		0.00			
	12/15/1999	NM	105.08	NM	13.58		0.00			
	1/12/2000	NM	104.77	NM	13.89		0.00			
	2/10/2000	NM	106.70	NM	11.96		0.00			
	3/15/2000	NM	111.09	NM	7.57		0.00			
	4/13/2000	NM	109.87	NM	8.79		0.00			
	5/12/2000	NM	109.41	NM	9.25		0.00			
	6/15/2000	NM	108.39	NM	10.27		0.00			
	7/14/2000	NM	107.24	NM	11.42		0.00			
	3/6/2001	NM	108.06	NM	10.63	118.69	0.00			
	6/6/2001	NM	106.70	NM	11.99		0.00			
	9/12/2001	NM	104.58	NM	14.11		0.00			
	12/13/2001	NM	106.28	NM	12.41		0.00			
	3/21/2002	NM	110.54	NM	8.15		0.00			
	6/14/2002	NM	108.09	NM	10.60		NM			
	9/10/2002	NM	105.69	NM	13.00		NM			
	12/11/2002	NM	104.81	NM	13.88		NM			
	3/25/2003	NM	109.76	NM	8.93		NM			
	6/27/2003	NM	109.07	NM	9.62		NM			
	10/1/2003	NM	106.05	NM	12.64		NM			
	12/12/2003	NM	106.24	NM	12.45		NM			
	3/26/2004	NM	110.34	NM	8.35		NM			
	7/9/2004	NM	107.43	NM	11.26		NM			
	9/21/2004	NM	105.63	NM	13.06		NM			
	12/20/04 & 12/21/04	106.15	106.09	12.54	12.60		NM			
	3/16/05 & 3/17/05	110.60	110.58	8.09	8.11		NM			
	6/9/05 & 6/13/05	110.69	110.54	8.00	8.15		NM			
MW-2	2/2/1995	NM	111.08	NM	9.27	120.35	-	10.0-25.0	8.0-25.0	6.0-8.0
	3/19/1998	NM	112.08	NM	8.27		-			
	9/9/1999	NM	106.72	NM	13.63		-			
	10/11/1999	NM	106.04	NM	14.31		-			
	11/17/1999	NM	105.59	NM	14.76		0.00			
	12/15/1999	NM	105.37	NM	14.98		0.00			
	1/12/2000	NM	105.04	NM	15.31		0.00			
	2/10/2000	NM	107.00	NM	13.35		0.00			
	3/15/2000	NM	111.39	NM	8.96		0.00			
	4/13/2000	NM	110.24	NM	10.11		0.00			
	5/12/2000	NM	109.80	NM	10.55		0.00			
	6/15/2000	NM	108.78	NM	11.57		0.00			
	7/14/2000	NM	107.64	NM	12.71		0.00			
	3/6/2001	NM	108.33	NM	12.04	120.37	0.00			
	6/6/2001	NM	107.05	NM	13.32		0.00			
	9/12/2001	NM	104.89	NM	15.48		0.00			
	12/13/2001	NM	106.54	NM	13.83		0.00			
	3/21/2002	NM	110.80	NM	9.57		0.00			
	6/14/2002	NM	108.45	NM	11.92		NM			
	9/10/2002	NM	106.07	NM	14.30		NM			
	12/11/2002	NM	105.11	NM	15.26		NM			
	3/25/2003	NM	110.10	NM	10.27		NM			
	6/27/2003	NM	109.55	NM	10.82		NM			
	10/1/2003	NM	106.47	NM	13.90		NM			
	12/12/2003	NM	106.62	NM	13.75		NM			
	3/26/2004	NM	110.68	NM	9.69		NM			
	7/9/2004	NM	107.89	NM	12.48		NM			
	9/21/2004	NM	106.04	NM	14.33		NM			
	12/20/04 & 12/21/04	106.49	106.40	13.88	13.97		NM			
	3/16/05 & 3/17/05	110.92	110.89	9.45	9.48		NM			
	6/9/05 & 6/13/05	111.07	110.98	9.30	9.39		NM			

Table 1. Water Level Data and Well Construction Details

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200 Talmadge Drive, Santa Rosa, California

Well ID	Date	Groundwater Elevation (Mean Sea Level)		Depth-to-Water		Top of Casing Elevation (Mean Sea Level)	Free Product Thickness	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval
		System On	System Off	System On	System Off		feet			
MW-3	2/2/1995		110.52		9.47	119.99	-	10.0-25.0	8.0-25.0	6.0-8.0
	3/19/1998		111.41		8.58		-			
	9/9/1999		106.57		13.42		-			
	10/11/1999		105.89		14.10		-			
	11/17/1999		105.46		14.53		0.00			
	12/15/1999		105.25		14.74		0.00			
	1/12/2000		104.95		15.04		0.00			
	2/10/2000		106.88		13.11		0.00			
	3/15/2000		111.30		8.69		0.00			
	4/13/2000		110.12		9.87		0.00			
	5/12/2000		109.66		10.33		0.00			
	6/15/2000		108.64		11.35		0.00			
	7/14/2000		107.49		12.50		0.00			
	3/6/2001		108.24		11.77	120.01	0.00			
	6/6/2001		106.93		13.08		0.00			
	9/12/2001		104.79		15.22		0.00			
	12/13/2001		106.42		13.59		0.00			
	1/24/2002	MW-3 Destroyed								
MW-4	3/21/2002	NM	110.02	NM	7.90	117.92	NM	5.0-20.0	4.0-20.0	3.0-4.0
	6/14/2002	NM	107.27	NM	10.65		NM			
	9/10/2002	NM	104.81	NM	13.11		NM			
	12/11/2002	NM	104.01	NM	13.91		NM			
	3/25/2003	NM	109.16	NM	8.76		NM			
	6/27/2003	NM	108.22	NM	9.70		NM			
	10/1/2003	NM	105.17	NM	12.75		NM			
	12/12/2003	NM	105.36	NM	12.56		NM			
	3/26/2004	NM	109.72	NM	8.20		NM			
	7/9/2004	NM	106.54	NM	11.38		NM			
	9/21/2004	NM	104.81	NM	13.11		NM			
	12/20/04 & 12/21/04	105.52	105.47	12.40	12.45		NM			
	3/16/05 & 3/17/05	110.06	110.07	7.86	7.85		NM			
	6/9/05 & 6/13/05	110.08	110.01	7.84	7.91		NM			
MW-5	3/21/2002	NM	109.42	NM	8.21	117.63	NM	5.0-20.0	4.0-20.0	3.0-4.0
	6/14/2002	NM	106.53	NM	11.10		NM			
	9/10/2002	NM	103.99	NM	13.64		NM			
	12/11/2002	NM	103.21	NM	14.42		NM			
	3/25/2003	NM	108.53	NM	9.10		NM			
	6/27/2003	NM	107.40	NM	10.23		NM			
	10/1/2003	NM	104.40	NM	13.23		NM			
	12/12/2003	NM	104.65	NM	12.98		NM			
	3/26/2004	NM	109.11	NM	8.52		NM			
	7/9/2004	NM	105.89	NM	11.74		NM			
	9/21/2004	NM	104.08	NM	13.55		NM			
	12/20/04 & 12/21/04	104.97	104.90	12.66	12.73		NM			
	3/16/05 & 3/17/05	109.59	109.58	8.04	8.05		NM			
	6/9/05 & 6/13/05	109.47	109.33	8.16	8.30		NM			
MW-6	3/21/2002	NM	110.10	NM	7.46	117.56	NM	5.0-20.0	4.0-20.0	3.0-4.0
	6/14/2002	NM	107.52	NM	10.04		NM			
	9/10/2002	NM	105.12	NM	12.44		NM			
	12/11/2002	NM	104.33	NM	13.23		NM			
	3/25/2003	NM	109.29	NM	8.27		NM			
	6/27/2003	NM	108.45	NM	9.11		NM			
	10/1/2003	NM	105.50	NM	12.06		NM			
	12/12/2003	NM	105.67	NM	11.89		NM			
	3/26/2004	NM	109.87	NM	7.69		NM			
	7/9/2004	NM	106.90	NM	10.66		NM			
	9/21/2004	NM	105.13	NM	12.43		NM			
	12/20/04 & 12/21/04	105.72	105.65	11.84	11.91		NM			
	3/16/05 & 3/17/05	110.19	110.19	7.37	7.37		NM			
	6/9/05 & 6/13/05	NM	110.10	NM	7.46		NM			

Table 1. Water Level Data and Well Construction Details

Mani Site

200 Talmadge Drive, Santa Rosa, California

Well ID	Date	Groundwater Elevation (Mean Sea Level)		Depth-to-Water		Top of Casing Elevation (Mean Sea Level)	Free Product Thickness	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval
		System On	System Off	System On	System Off		feet			
SP-1	6/1/2004	NM	NM	NM	11.58	NM	NM	14-17	13.5-19.5	0-13.5
SP-2	6/1/2004	NM	NM	NM	11.41	NM	NM	20-23	19-23	0-19.0
SP-3	6/1/2004	NM	NM	NM	11.07	NM	NM	19-22	18.5-24	0-18.5
SP-4	6/1/2004	NM	NM	NM	10.29	NM	NM	19-22	18.5-22	0-18.5
SP-5	6/1/2004	NM	NM	NM	10.87	NM	NM	14.5-17.5	14-19.5	0-14.0

Abbreviations:

NM = Not Measured

Notes:

Monitoring wells were resurveyed on March 13, 2001, and it was discovered that the top-of-casing elevations for MW-2 and MW-3 had been entered in the reverse order when the table was created. This table reflects the corrected top-of-casing elevations, and corresponding groundwater elevations for MW-2 and MW-3.

Table 2. Groundwater Gradient and Flow Direction

Mani Site
200 Talmadge Drive, Santa Rosa, California

Date	Groundwater Gradient (ft/ft)	Flow Direction	Wells used for Calculating Gradient and Flow Direction
2/2/1995	0.02	South 13^0 West	MW-1, MW-2, MW-3
3/19/1998	0.02	South 5^0 East	MW-1, MW-2, MW-3
9/9/1999	0.01	South 52^0 West	MW-1, MW-2, MW-3
10/11/1999	0.01	South 50^0 West	MW-1, MW-2, MW-3
11/17/1999	0.01	South 51^0 West	MW-1, MW-2, MW-3
12/15/1999	0.01	South 47^0 West	MW-1, MW-2, MW-3
1/12/2000	0.01	South 54^0 West	MW-1, MW-2, MW-3
2/10/2000	0.01	South 49^0 West	MW-1, MW-2, MW-3
3/15/2000	0.01	South 57^0 West	MW-1, MW-2, MW-3
4/13/2000	0.01	South 55^0 West	MW-1, MW-2, MW-3
5/12/2000	0.01	South 52^0 West	MW-1, MW-2, MW-3
6/15/2000	0.01	South 52^0 West	MW-1, MW-2, MW-3
7/14/2000	0.01	South 51^0 West	MW-1, MW-2, MW-3
3/6/2001	0.01	South 55^0 West	MW-1, MW-2, MW-3
6/6/2001	0.01	South 55^0 West	MW-1, MW-2, MW-3
9/12/2001	0.01	South 56^0 West	MW-1, MW-2, MW-3
12/13/2001	0.01	South 47^0 West	MW-1, MW-2, MW-3
3/21/2002	0.01	West-Southwest	MW-1, MW-2, MW-4, MW-5, MW-6
6/14/2002	0.02	West-Southwest	MW-1, MW-2, MW-4, MW-5, MW-6
9/10/2002	0.02	Southwest	MW-1, MW-2, MW-4, MW-5, MW-6
12/11/2002	0.02	West-Southwest	MW-1, MW-2, MW-4, MW-5, MW-6
3/25/2003	0.01	Southwest	MW-1, MW-2, MW-4, MW-5, MW-6
6/27/2003	0.01	Southwest	MW-1, MW-2, MW-4, MW-5, MW-6
10/1/2003	0.02	Southwest	MW-1, MW-2, MW-4, MW-5, MW-6
12/12/2003	0.02	Southwest	MW-1, MW-2, MW-4, MW-5, MW-6
3/26/2004	0.02	Southwest	MW-1, MW-2, MW-4, MW-5, MW-6
7/9/2004	0.01	Southwest	MW-1, MW-2, MW-4, MW-5, MW-6
9/21/2004	0.02	Southwest	MW-1, MW-2, MW-4, MW-5, MW-6
12/21/2004	0.01	Southwest	MW-1, MW-2, MW-4, MW-5, MW-6
3/17/2005	0.008	Southwest	MW-1, MW-2, MW-4, MW-5, MW-6
6/13/2005	0.02	West-Southwest	MW-1, MW-2, MW-4, MW-5, MW-6

Note: Monitoring wells were resurveyed on March 13, 2001, and it was discovered that the top-of-casing elevations for MW-2 and MW-3 had been entered in the reverse order when the table was created. This table reflects the corrected top-of-casing elevations, and corresponding groundwater elevations for MW-2 and MW-3. Elevations are relative to mean sea level.

Table 3. Dissolved Oxygen and Indicator Parameters

Mani Site
200 Talmadge Drive, Santa Rosa, California

Well ID	Sample Date [a]	Dissolved Oxygen (mg/L)	ORP (mV)	pH	Conductivity [b] (uS/cm)	Temperature (^{o}F)
MW-1	9/10/2002	---	---	6.74	502	70.9
	12/11/2002	---	---	6.85	819	65.7
	3/25/2003	0.28	---	7.00	1053	65.2
	6/27/2003	0.28	-108	6.83	839	64.4
	10/1/2003	0.28	-35	7.00	883	65.8
	12/12/2003	---	-54	6.81	1007	66.0
	3/26/2004	---	-64	6.76	1039	64.0
	7/9/2004	0.50	-68	6.70	921	65.1
	Biosparge System Start-up After 7/9/04 Monitoring Event					
	9/20/04 & 9/21/04*	0.33	-34	6.97	825	66.7
	12/20/04 & 12/21/04*	0.74	-54	6.91	891	66.9
	2/24/2005	---[c]	---	---	---	---
	3/16/05 & 3/17/05*	9.09	4	6.84	835	65.1
	6/9/05 & 6/13/05*	9.03	---	6.86 [e]	723 [e]	68.8 [e]
MW-2	9/10/2002	---	---	**Not Sampled**		
	12/11/2002	---	---	**Not Sampled**		
	3/25/2003	0.41	---	6.50	650	66.7
	6/27/2003	0.70	147	6.62	612	65.8
	10/1/2003	0.92	205	6.63	648	67.5
	12/12/2003	---	232	6.63	655	68.2
	3/26/2004	---	250	6.26	612	65.5
	7/9/2004	1.88	222	6.50	578	66.4
	Biosparge System Start-up After 7/9/04 Monitoring Event					
	9/20/04 & 9/21/04*	0.58	173	6.64	572	68.4
	12/20/04 & 12/21/04*	0.50	228	6.42	587	68.2
	2/24/2005	0.78	---	---	---	---
	3/16/05 & 3/17/05*	0.64	203	6.30	619	66.0
	6/9/05 & 6/13/05*	1.27	---	6.34 [e]	601 [e]	68.3 [e]
MW-3	**Well Destroyed**					
MW-4	9/10/2002	---	---	**Not Measured [d]**		
	12/11/2002	---	---	6.69	732	66.3
	3/25/2003	0.27	---	7.00	868	64.7
	6/27/2003	0.20	-94	6.60	820	66.4
	10/1/2003	0.29	-19	6.74	802	69.6
	12/12/2003	---	-533	6.75	826	67.8
	3/26/2004	---	2	6.55	886	64.0
	7/9/2004	3.31	-60	6.60	740	67.5
	Biosparge System Start-up After 7/9/04 Monitoring Event					
	9/20/04 & 9/21/04*	0.35	-39	7.03	633	71.8
	12/20/04 & 12/21/04*	0.69	-1	7.02	638	69.6
	2/24/2005	0.30	---	---	---	---
	3/16/05 & 3/17/05*	4.55	17	6.77	552	64.8
	6/9/05 & 6/13/05*	6.85	---	6.80 [e]	507 [e]	70.6 [e]
MW-5	9/10/2002	---	---	6.96	659	70.9
	12/11/2002	---	---	6.62	635	66.6
	3/25/2003	0.26	---	7.00	799	64.0
	6/27/2003	0.21	-43	6.57	774	65.3
	10/1/2003	0.30	19	6.67	732	67.8
	12/12/2003	---	31	6.67	735	67.3
	3/26/2004	---	41	6.54	803	62.8
	7/9/2004	0.45	7	6.50	726	65.5
	Biosparge System Start-up After 7/9/04 Monitoring Event					
	9/20/04 & 9/21/04*	0.27	27	6.65	653	68.5
	12/20/04 & 12/21/04*	0.59	45	6.61	639	66.7
	2/24/2005	0.27	---	---	---	---
	3/16/05 & 3/17/05*	0.60	530	6.56	598	63.1
	6/9/05 & 6/13/05*	0.35	---	6.77 [e]	603 [e]	67.5 [e]

Table 3. Dissolved Oxygen and Indicator Parameters

Mani Site
200 Talmadge Drive, Santa Rosa, California

Well ID	Sample Date [a]	Dissolved Oxygen (mg/L)	ORP (mV)	pH	Conductivity [b] (uS/cm)	Temperature (^{o}F)
MW-6	9/10/2002	---	---	6.88	612	69.9
	12/11/2002	---	---	6.44	563	68.2
	3/25/2003	0.28	---	7.00	653	65.5
	6/27/2003	0.39	178	6.61	610	66.9
	10/1/2003	0.58	208	6.69	646	69.4
	12/12/2003	---	263	6.68	661	69.3
	3/26/2004	---	222	6.44	605	64.4
	7/9/2004	0.54	225	6.51	580	67.5
	Biosparge System Start-up After 7/9/04 Monitoring Event					
	9/20/04 & 9/21/04*	0.56	176	6.57	572	70.2
	12/20/04 & 12/21/04*	3.10	212	6.52	558	69.3
	2/24/2005	3.74	---	---	---	---
	3/16/05 & 3/17/05*	4.70	179	6.43	560	65.3
	6/9/05 & 6/13/05*	5.44	---	6.64 [e]	590 [e]	68.9 [e]

Notes:

a = Tabulated indicator parameters were the last to be recorded from each well.
b = The conductivity was incorrectly reported for the 9/10/2002, 12/11/2002, and 3/25/2003 reporting periods. The decimal points have been moved to show the correct values.
c = DO was not measured because well was covered by a truck that could not be moved at the time DO was measured.
d = Well de-watered after purging 0.75 gallons. Indicator parameters were not measured.
e = A Hydac was used to measure indicator parameters due to the unavailability of the Ultrameter.
* = During this sampling event, DO was measured on the first date while the system was on and the other indicator parameters were measured on the second date during purging activities.

Abbreviations:

mg/L = milligrams per liter
ORP = oxidation/reduction potential
mV = millivolts
uS/cm = microSiemens per centimeter
^{o}F = degrees Fahrenheit
--- = Measurements not taken

Table 4. Analytical Results of Nutrient Compounds

Mani Site

200 Talmadge Drive, Santa Rosa, California

Well ID	Sample Date	Analytic Method - EPA 300 (IC), SM 4500			
		Nitrate as Nitrogen (NO_3^{-1}-N)	Nitrite as Nitrogen (NO_2^{-1}-N)	Ammonia as Nitrogen (NH_4^{-1}-N)	Phosphate (PO_4)
		mg/L			
MW-1	5/8/2003	**0.99**	NA	NA	<2.0
	7/9/2004	<0.10	<0.10	<0.15	<0.50
	Biosparge System Start-up After 7/9/04 Monitoring Event				
	9/21/2004	<0.15	<0.15	**0.37**	<2.0
	First Nutrient Injection 9/22/04				
	11/9/2004	<0.50	NA	NA	NA
	12/21/2004	<0.10	<0.10	<0.2	<0.50
	3/17/2005	<0.15	<0.15	<0.15	<1.0
	6/13/2005	**1.4**	<0.15	<0.15	<1.0
MW-2	5/8/2003	**6.7**	NA	NA	<2.0
	7/9/2004	**1.4**	<0.10	<0.15	<0.50
	Biosparge System Start-up After 7/9/04 Monitoring Event				
	9/21/2004	**1.3**	<0.15	<0.15	<2.0
	First Nutrient Injection 9/22/04				
	11/9/2004	**5.9**	NA	NA	NA
	12/21/2004	**1.2**	<0.10	<0.2	<0.50
	3/17/2005	**2.0**	<0.15	<0.15	<1.0
	6/13/2005	**1.7**	<0.15	<0.15	<1.0
MW-4	7/9/2004	<0.10	<0.10	<0.15	<0.50
	Biosparge System Start-up After 7/9/04 Monitoring Event				
	9/21/2004	**0.17**	<0.15	<0.15	<2.0
	First Nutrient Injection 9/22/04				
	11/9/2004	<0.50	NA	NA	NA
	12/21/2004	<0.10	<0.10	<0.2	<0.50
	3/17/2005	<0.15	<0.15	<0.15	<1.0
	6/13/2005	<0.15	<0.15	<0.15	<1.0
MW-5	7/9/2004	<0.10	<0.10	<0.15	<0.50
	Biosparge System Start-up After 7/9/04 Monitoring Event				
	9/21/2004	<0.15	<0.15	<0.15	<2.0
	First Nutrient Injection 9/22/04				
	11/9/2004	**3.0**	NA	NA	NA
	12/21/2004	<0.10	<0.10	<0.2	<0.50
	3/17/2005	<0.15	<0.15	<0.15	<1.0
	6/13/2005	**0.16**	<0.15	<0.15	<1.0
MW-6	5/8/2003	**5.8**	NA	NA	<2.0
	7/9/2004	**1.4**	<0.10	<0.15	<0.50
	Biosparge System Start-up After 7/9/04 Monitoring Event				
	9/21/2004	**1.2**	<0.15	**0.30**	<2.0
	First Nutrient Injection 9/22/04				
	11/9/2004	**5.7**	NA	NA	NA
	12/21/2004	**1.2**	<0.10	<0.2	<0.50
	3/17/2005	**1.8**	<0.15	<0.15	<1.0
	6/13/2005	**1.6**	<0.15	<0.15	<1.0

Abbreviations:

mg/L = milligrams per liter

NA = Not analyzed

Note: 9/21/04 data is considered baseline for pre-nutrient injection. The first nutrient injection was completed 9/22/04, after 3rd quarter sampling.

Table 5. Analytical Results of Groundwater Samples

Mani Site

200 Talmadge Drive, Santa Rosa, California

Well ID	Date Sampled	Analytic Methods	TPH-G	TPH-D	B	T	E	X	MTBE	DIPE	ETBE	TAME	TBA	EDC / EDB
			ug/L											
MW-1	2/2/95	8015M / 8020	**32,000**	**2600** [b]	**3,600**	**6,600**	**1,300**	**6,100**	NA	ND	ND	ND	ND	NA
	4/6/95	8015M / 8020	**10,000**	NA	**1,400**	**1,500**	**560**	**1,600**	NA	ND	ND	ND	ND	NA
	3/19/1998	5030/602/8260	**30,000**	**1,400**	**1,300**	**1,000**	**770**	**2,900**	**360**	ND	ND	ND	ND	NA
	9/9/1999	5030A/8260B/8015M	**19,000**	**1,600**	**570**	**220**	**360**	**1,100**	**140**	ND	ND	ND	ND	NA
	12/15/1999	5030A/8260B/8015M	**13,000**	**2,600**	**1,400**	**410**	**1,400**	**3,400**	**280**	ND	ND	ND	ND	NA
	3/15/2000	5030A/8260B/8015M	**23,000**	**1,600**	**920**	**360**	**970**	**2,600**	**120**	ND	ND	ND	ND	<50
	7/14/2000	5030A/8260B/8015M	**22,000**	**880**	**1,300**	**240**	**1,400**	**3,100**	**200**	ND	ND	ND	ND	<50
	3/6/2001	5030A/8260B/8015M	**25,000**	**2,900**	**1,700**	**310**	**2,200**	**4,400**	**260**	ND	ND	ND	ND	<0.50
	6/6/2001	5030A/8260B/8015M	**16,000**	**470** [c]	**980**	**140**	**1,300**	**1,800**	**200**	ND	ND	ND	ND	<50
	9/12/2001	5030A/8260B/8015M	**17,000**	**1,100** [c]	**730**	**96**	**980**	**1,800**	**240**	ND	ND	ND	**31**	<0.50
	12/13/2001	5030A/8260B/8015M	**29,000**	**4,100** [c]	**1,400**	**560**	**1,900**	**4,000**	**120**	ND	ND	ND	ND	<5.0
	3/21/2002	5030A/8260B/8015M	**6,400**	**1,700** [c]	**400**	**200**	**740**	**1,440**	**28**	<10	<10	<10	<10	<10
	6/14/2002	5030A/8260B/8015M	**12,000**	**2000** [d]	**370**	**150**	**860**	**1,700**	**45**	<10	<10	<10	<200	NA
	9/10/2002	5030A/8260B/8015M	**11,000**	**3800** [d]	**140**	**85**	**500**	**940**	**38**	<5.0	<5.0	<5.0	<100	NA
	12/11/2002	5030/8015M/8260B	**9,100**	**3200** [d]	**280**	**120**	**600**	**840**	**64**	<10	<10	<10	<250	NA
	3/25/2003	5030/8015M/8260B	**8,500**	NA	**160**	**210**	**860**	**1,780**	**33**	<10	<10	<10	<250	<10
	5/8/2003	5030/8015M/8260B	**9,900**	NA	**250**	**450**	**790**	**2,020**	<10	<10	<10	<10	<250	<10
	6/27/2003	5030/8015M/8260B	**5,800**	NA	**140**	**220**	**580**	**1,350**	**19**	<10	<10	<10	<25	<10
	10/1/2003	5030/8015M/8260B	**8,100**	NA	**180**	**330**	**1,100**	**2,700**	**36**	<10	<10	<10	<250	<10
	12/12/2003	5030/8015M/8260B	**23,000**	NA	**230**	**380**	**1,800**	**5,290**	**33**	<20	<20	<20	<500	<20
	3/26/2004 [f]	5030/8015M/8260B	**10,000**	**1,800** [d]	**92**	**140**	**900**	**2,200**	**20**	<1.0	<1.0	<1.0	<25	NA
	7/9/2004	5030/8015M/8260B	**4,900**	**1,600** [d]	**40**	**38**	**370**	**880**	**22**	<10	<10	<10	<250	NA
	Biosparge System Start-up After 7/9/04 Monitoring Event													
	9/21/2004	5030/8015M/8260B	**4,300**	**420** [d]	**16**	**13**	**150**	**281**	<10	<10	<10	<10	<250	NA
	12/21/2004	5030/8015M/8260B	**4,500**	**1,200** [d]	**11**	**11**	**37**	**167**	<10	<10	<10	<10	<250	NA
	3/17/2005	5030/8015M/8260B	**1,200**	**290** [d]	**1.3**	**1.6**	**25**	**66**	**1.4**	<1.0	<1.0	<1.0	<25	NA
	6/13/2005	5030/8015M/8260B	**470**	**130** [d]	**1.2**	<1.0	**22**	**32.3**	<1.0	<1.0	<1.0	<1.0	<25	NA
MW-2	2/2/95 [a]	8015M / 8020	<50.0	**110** [e]	<0.5	**1.2**	<0.5	<0.5	NA	ND	ND	ND	ND	NA
	3/19/1995	5030/602/8260	<50.0	<50	<0.3	<0.3	<0.5	<0.5	NA	ND	ND	ND	ND	NA
	9/9/1999	5030A/8260B/8015M	<50.0	<50	<0.3	<0.3	<0.5	<0.5	ND	ND	ND	ND	ND	NA
	12/15/1999	5030A/8260B/8015M	<50	<50	<0.30	<0.30	<0.50	<0.50	<0.50	ND	ND	ND	ND	NA
	3/15/2000	5030A/8260B/8015M	<50	<50	<0.30	<0.30	<0.50	<0.50	<0.50	ND	ND	ND	ND	<0.5
	7/14/2000	5030A/8260B/8015M	<50	<50	<0.30	<0.30	<0.50	<0.50	<0.50	ND	ND	ND	ND	<0.5
	3/6/2001	5030A/8260B/8015M	<50	<50	<0.30	<0.30	<0.50	<0.50	<0.50	ND	ND	ND	ND	<0.50
	6/6/2001	5030A/8260B/8015M	<50	<50	<0.30	<0.30	<0.50	<0.50	<0.50	ND	ND	ND	ND	<0.50
	9/12/2001	5030A/8260B/8015M	<50	<50	<0.30	<0.30	<0.50	<0.50	<0.50	ND	ND	ND	ND	<0.50
	12/13/2001	Not Sampled												
	3/21/2002	5030A/8260B/8015M	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0
	6/14/2002	Not Sampled												
	9/10/2002	Not Sampled												
	3/25/2003	5030/8015M/8260B	<50	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0
	6/27/2003	5030/8015M/8260B	<50	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0
	10/1/2003	5030/8015M/8260B	<50	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0
	12/12/2003	5030/8015M/8260B	<50	NA	<1.0	**2.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0
	3/26/2004 [f]	5030/8015M/8260B	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	7/9/2004	5030/8015M/8260B	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	Biosparge System Start-up After 7/9/04 Monitoring Event													
	9/21/2004	5030/8015M/8260B	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	12/21/2004	5030/8015M/8260B	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	3/17/2005	5030/8015M/8260B	<50	<50	<1.0	<1.0	**2.1**	**4.1**	<1.0	<1.0	<1.0	<1.0	<25	NA
	6/13/2005	5030/8015M/8260B	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
Water Quality Objectives in ug/L			<50	<50	<1	<42	<29	<17	<5	None	None	None	<12	<0.5

Table 5. Analytical Results of Groundwater Samples

Mani Site

200 Talmadge Drive, Santa Rosa, California

Well ID	Date Sampled	Analytic Methods	TPH-G	TPH-D	B	T	E	X	MTBE	DIPE	ETBE	TAME	TBA	EDC / EDB
			ug/L											
MW-3	2/2/95 [a]	8015M / 8020	<50.0	**460**	**5.4**	**12**	**1.3**	**12.0**	NA	NA	NA	NA	NA	NA
	3/19/1995	5030/602/8260	<50.0	<50	<0.3	<0.3	<0.5	<0.5	NA	NA	NA	NA	NA	NA
	9/9/1999	5030A/8260B/8015M	<50.0	<50	<0.3	<0.3	<0.5	<0.5	ND	ND	ND	ND	ND	NA
	12/15/1999	5030A/8260B/8015M	<50	<50	<0.30	<0.30	<0.50	<0.50	<0.50	ND	ND	ND	ND	NA
	3/15/2000	5030A/8260B/8015M	<50	<50	<0.30	<0.30	<0.50	<0.50	<0.50	ND	ND	ND	ND	<0.5
	7/14/2000	5030A/8260B/8015M	<50	<50	<0.30	<0.30	<0.50	<0.50	<0.50	ND	ND	ND	ND	<0.5
	3/6/2001	5030A/8260B/8015M	<50	<50	<0.30	<0.30	<0.50	<0.50	<0.50	ND	ND	ND	ND	<0.50
	6/6/2001	5030A/8260B/8015M	<50	<50	<0.30	<0.30	<0.50	<0.50	<0.50	ND	ND	ND	ND	<0.50
	9/12/2001	5030A/8260B/8015M	<50	<50	<0.30	<0.30	<0.50	<0.50	<0.50	ND	ND	ND	ND	<0.50
	12/13/2001	Not Sampled												
	1/24/2002	Well Destroyed												
MW-4	3/21/2002	5030A/8260B/8015M	**420**	**120** [c]	**4.1**	<1.0	**5.4**	<1.0	**43**	<1.0	<1.0	<1.0	<25	<1.0
	6/14/2002	5030A/8260B/8015M	**550**	**110** [d]	<1.0	<1.0	**3.4**	<1.0	**33**	<1.0	<1.0	<1.0	<25	NA
	9/10/2002	5030A/8260B/8015M	**1,300**	**200** [d]	**6.6**	<1.0	**38**	<1.0	**27**	<1.0	<1.0	<1.0	<25	NA
	12/11/2002	5030/8015M/8260B	**510**	**230** [d]	**2.1**	<1.0	**13**	<1.0	**28**	<1.0	<1.0	<1.0	<25	NA
	3/25/2003	5030/8015M/8260B	**410**	NA	<1.0	<1.0	**1.7**	<1.0	**24**	<1.0	<1.0	<1.0	<25	<1.0
	6/27/2003	5030/8015M/8260B	**410**	NA	<1.0	<1.0	**1.5**	<1.0	**9.8**	<1.0	<1.0	<1.0	<25	<1.0
	10/1/2003	5030/8015M/8260B	**350**	NA	<1.0	<1.0	<1.0	<1.0	**9.5**	<1.0	<1.0	<1.0	<25	<1.0
	12/12/2003	5030/8015M/8260B	**490**	NA	<1.0	<1.0	<1.0	<1.0	**11**	<1.0	<1.0	<1.0	<25	<1.0
	3/26/2004 [f]	5030/8015M/8260B	**290**	<50	<1.0	<1.0	<1.0	<1.0	**9.0**	<1.0	<1.0	<1.0	<25	NA
	7/9/2004	5030/8015M/8260B	**870**	**120** [d]	**3.5**	<1.0	**2.3**	**10.3**	**6.4**	<1.0	<1.0	<1.0	<25	NA
	Biosparge System Start-up After 7/9/04 Monitoring Event													
	9/21/2004	5030/8015M/8260B	**650**	**91** [d]	<1.0	<1.0	<1.0	<1.0	**1.3**	<1.0	<1.0	<1.0	<25	NA
	12/21/2004	5030/8015M/8260B	**600**	**75** [d]	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	3/17/2005	5030/8015M/8260B	**130**	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	6/13/2005	5030/8015M/8260B	**180**	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
MW-5	3/21/2002	5030A/8260B/8015M	**400**	<50	<1.0	<1.0	<1.0	<1.0	**32**	<1.0	<1.0	<1.0	<25	<1.0
	6/14/2002	5030A/8260B/8015M	<50	<50	<1.0	<1.0	<1.0	<1.0	**31**	<1.0	<1.0	<1.0	<25	NA
	9/10/2002	5030A/8260B/8015M	**350**	<50	<1.0	<1.0	<1.0	<1.0	**11**	<1.0	<1.0	<1.0	<25	NA
	12/11/2002	5030/8015M/8260B	**390**	<50	<1.0	<1.0	<1.0	<1.0	**21**	<1.0	<1.0	<1.0	<25	NA
	3/25/2003	5030/8015M/8260B	**380**	NA	<1.0	<1.0	<1.0	<1.0	**21**	<1.0	<1.0	<1.0	<25	<1.0
	6/27/2003	5030/8015M/8260B	**290**	NA	<1.0	<1.0	<1.0	<1.0	**11**	<1.0	<1.0	<1.0	<25	<1.0
	10/1/2003	5030/8015M/8260B	**260**	NA	<1.0	<1.0	<1.0	<1.0	**5.9**	<1.0	<1.0	<1.0	<25	<1.0
	12/12/2003	5030/8015M/8260B	**210**	NA	<1.0	<1.0	<1.0	<1.0	**6.5**	<1.0	<1.0	<1.0	<25	<1.0
	3/26/2004 [f]	5030/8015M/8260B	**270**	<50	<1.0	<1.0	<1.0	<1.0	**9.9**	<1.0	<1.0	<1.0	<25	NA
	7/9/2004	5030/8015M/8260B	**280**	<50	<1.0	<1.0	<1.0	<1.0	**7.1**	<1.0	<1.0	<1.0	<25	NA
	Biosparge System Start-up After 7/9/04 Monitoring Event													
	9/21/2004	5030/8015M/8260B	**230**	<50	<1.0	<1.0	<1.0	<1.0	**3.7**	<1.0	<1.0	<1.0	<25	NA
	12/21/2004	5030/8015M/8260B	**210**	<50	<1.0	<1.0	<1.0	<1.0	**3.4**	<1.0	<1.0	<1.0	<25	NA
	3/17/2005	5030/8015M/8260B	**200**	<50	<1.0	<1.0	<1.0	<1.0	**4.4**	<1.0	<1.0	<1.0	<25	NA
	6/13/2005	5030/8015M/8260B	**160**	<50	<1.0	<1.0	<1.0	<1.0	**2.0**	<1.0	<1.0	<1.0	<25	NA
MW-6	3/21/2002	5030A/8260B/8015M	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0
	6/14/2002	5030A/8260B/8015M	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	9/10/2002	5030A/8260B/8015M	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	12/11/2002	5030/8015M/8260B	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	3/25/2003	5030/8015M/8260B	<50	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0
	6/27/2003	5030/8015M/8260B	<50	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0
	10/1/2003	5030/8015M/8260B	<50	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0
	12/12/2003	5030/8015M/8260B	**260**	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0
	3/26/2004 [f]	5030/8015M/8260B	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	7/9/2004	5030/8015M/8260B	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	Biosparge System Start-up After 7/9/04 Monitoring Event													
	9/21/2004	5030/8015M/8260B	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	12/21/2004	5030/8015M/8260B	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	3/17/2005	5030/8015M/8260B	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
	6/13/2005	5030/8015M/8260B	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	NA
Water Quality Objectives in ug/L			<50	<50	<1	<42	<29	<17	<5	None	None	None	<12	<0.5

Table 5. Analytical Results of Groundwater Samples

Mani Site

200 Talmadge Drive, Santa Rosa, California

Well ID	Date Sampled	Analytic Methods	TPH-G	TPH-D	B	T	E	X	MTBE	DIPE	ETBE	TAME	TBA	EDC / EDB
			ug/L											
SP-1	6/1/2004	EPA 5030/8015M/8260B	<50	NA	<1.0 [g]	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0
SP-2	6/1/2004	EPA 5030/8015M/8260B	<50	NA	<1.0 [g]	<1.0	<1.0	<1.0	**5.7**	<1.0	<1.0	<1.0	<25	<1.0
SP-3	6/1/2004	EPA 5030/8015M/8260B	**4,100**	NA	<5.0	<5.0	**11**	**240**	<5.0	<5.0	<5.0	<5.0	<100	<5.0
SP-4	6/1/2004	EPA 5030/8015M/8260B	**3,600**	NA	**15**	<5.0	**81**	**127**	**10**	<1.0	<1.0	<1.0	<25	<5.0
SP-5	6/1/2004	EPA 5030/8015M/8260B	<50	NA	<1.0	<1.0	<1.0	<1.0	**5.1**	<1.0	<1.0	<1.0	<25	<1.0
Trip Blank	3/19/1998	5030 / 602	<50	NA	<0.3	<0.3	<0.5	<0.5	NA	NA	NA	NA	NA	NA
	9/9/1999	5030A / 8020	<50	NA	<0.3	<0.3	<0.5	<0.5	NA	NA	NA	NA	NA	NA
	12/15/1999	8260B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/15/2000	5030A / 8020	<50	NA	<0.3	<0.3	<0.5	<0.5	NA	NA	NA	NA	NA	NA
	7/14/2000	5030A / 8020	<50	NA	<0.3	<0.3	<0.5	<0.5	NA	NA	NA	NA	NA	NA
	3/6/2001	5030A / 8020	<50	NA	<0.30	<0.30	<0.50	<0.50	NA	NA	NA	NA	NA	NA
	6/6/2001	5030A / 8020	<50	NA	<0.30	<0.30	<0.50	<0.50	NA	NA	NA	NA	NA	NA
	9/12/2001	5030A / 8020	<50	NA	<0.30	<0.30	<0.50	<0.50	NA	NA	NA	NA	NA	NA
	12/13/2001	5030A / 8020	<50	NA	<0.30	<0.30	<0.50	<0.50	NA	NA	NA	NA	NA	NA
	3/21/2002	8260	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0
	6/14/2002	8015M/8020	<50	NA	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	NA	NA	NA
	9/9/2002	8015M/8020	<50	NA	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	NA	NA	NA
	12/11/2002	5030/8015M/8020	<50	NA	<0.5	<0.5	<0.5	<1.5	<2.5	NA	NA	NA	NA	NA
	3/25/2003	5030/8015M/8020	<50	NA	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	NA	NA	NA
	6/27/2003	5030/8015M/8020	<50	NA	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	NA	NA	NA
	10/1/2003	5030/8015M/8020	<50	NA	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	NA	NA	NA
	12/12/2003	5030/8015M/8020	<50	NA	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	NA	NA	NA
	3/26/2004	5030/8015M/8260B	<50	NA	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	NA	NA	NA
Water Quality Objectives in ug/L			<50	<50	<1	<42	<29	<17	<5	None	None	None	<12	<0.5

Notes:

[a] = Sampled by Sierra Environmental Services

[b] = Laboratory reports the positive result appears to be both a heavier and lighter hydrocarbon than diesel.

[c] = The Laboratory reports that results in the diesel range are primarily due to overlap from a gasoline range product.

[d] = The sample does not exhibit a chromatographic pattern characteristic of diesel. Higher boiling point components of weathered gasoline are present.

[e] = The laboratory reports the positive result appears to be a heavier hydrocarbon than diesel.

[f] = 3/26/04 samples were analyzed for TPH-MO by 8015M. Results were ND<200 ug/L.

[g] = Tetrahydrofuran (THF) was detected and is the primary ingredient in PVC pipe glue and consequently may not be a persistent contaminant.

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline
TPH-D = Total petroleum hydrocarbons as diesel
B = Benzene
T = Toluene
E = Ethyl benzene
X = Total xylenes
EDC = 1,2-dichloroethane
EDB = 1,2-dibromoethane
NA = Not analyzed
ND = Not detected above laboratory detection limits

The 5 Oxygenates Include:

MTBE = Methyl tert-butyl ether
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
TAME = Tert-amyl methyl ether
TBA = Tert-butyl alcohol

Analytic Methods:

5030 = EPA Method GCFID/5030 for TPH-G
602 = EPA Method 602 for BTEX
8020 = EPA Method for MTBE
8260B = EPA Method 8260 for BTEX / Oxygenates
8015M = EPA method 8015M for Diesel

Appendix A
Site-Specific Sampling Procedures

WINZLER & KELLY CONSULTING ENGINEERS

Site-Specific Groundwater Sampling Procedures
Mani Site
200 Talmadge Drive
Santa Rosa, California
June 9 and 13, 2005

1. Objective

Collect representative water level data and groundwater samples.

2. Background

Based on the analytical results of the previous sampling, field work proceeded from the monitoring wells in which the samples collected had the lowest concentrations of constituents to the wells that had the highest concentrations of constituents.

Water levels were measured to determine the direction and gradient of groundwater flow. Representative groundwater samples from the water-bearing zone were obtained using disposable polyethylene bailers following purging.

3. Personnel Required and Responsibilities

Winzler & Kelly Environmental Engineer: Pon Xayasaeng performed groundwater monitoring and sampling activities in accordance with the procedures outlined below.

4. Procedures

4a. Biosparge System Shutdown and DO Concentrations, June 9, 2005

- The membrane on the YSI Model 55 DO meter was checked for the presence of bubbles and wrinkles, neither of which was observed.
- The meter was calibrated in the field prior to collecting measurements.
- Using the calibrated YSI Model 55 DO Meter, DO concentrations were measured in each monitoring well.
- Following DO measurements, the biosparge system was shutdown to allow groundwater to equilibrate.

4b. Decontamination Procedures, June 13, 2005

- Using alconox soap and potable water, all equipment and instruments to be used were decontaminated upon arriving at the site.
- All equipment and instruments were decontaminated after use in each well.
- All equipment and instruments were decontaminated after field activities had been completed.

- Nitrile gloves were worn by sampler at all times and changed after handling equipment and instruments.

4c. Groundwater Elevations, June 13, 2005

- A water level meter was used to determine the depth-to-groundwater in each monitoring well.
- Recorded depth, time and visual observations regarding well access, condition, security, etc on water level data sheet.
- Decontaminated the water level meter after each use.

4d. Purging, June 13, 2005

- Calibrated Hydac Meter for conductivity and pH.
- Calculated the volume of standing water in each monitoring well using measured depth-to-water and historic depth-to-bottom. Recorded the volume calculated for each well on the Well Sampling Data Sheet.
- Purged monitoring wells using a 12-volt DC 1.5-inch electric submersible pump.
- Obtained readings of field parameters (pH, conductivity, temperature) with meter and visual observations of color/odor/turbidity at each well casing interval throughout the purging process.
- Recorded the time, readings, and visual comments on the Well Sampling Data Sheet.
- Purged each well until field parameters stabilized, not exceeding 7 casing volumes, or until the well de-watered.
- Decontaminated the electric submersible pump after each use.
- All excess water was transferred to 55-gallon drums labeled and secured on site.

4e. Groundwater Sample Collection, June 13, 2005

- Lowering new, disposable, polyethylene collected groundwater samples, bottom-filling bailers into the well after the water level had recharged to at least 80%.
- When completely full, the bailer was carefully retracted from the well casing.
- The groundwater was transferred from the bailer into 40-ml glass vials preserved with HCl.
- Upon filling, each vial was immediately capped. The vial was checked for air bubbles by inverting and gently tapping the vial.
- All samples were labeled with the following information:

Sample ID	Date and Time Sample Collected
Location	Sampler's Initials
Project Number	

- Sample information was documented on a chain-of-custody form.
- All samples were placed in an ice chest chilled with ice.
- Upon completion of the sampling activities, each well was closed and secured by replacing the well cap and securing the lock.

5. Equipment Used:

- Disposable gloves
- Potable water
- Alconox soap
- Containers to hold rinsate water
- Scrub Brushes
- Tools to open wells
- Keys to wells
- Water Level Data Form/pencil
- Well Sampling Data Sheet
- Groundwater Sampling Log form
- Water level meter
- 12-volt DC 1.5-inch electric submersible pump
- Hydac
- Containers to hold extracted water (as required)
- Disposable bailers (previously unused)
- Monofilament nylon line (50 lb test)
- Scissors
- Laboratory supplied sample containers (preserved, as required)
- Sample labels
- Ice chest
- Ice
- Labels/indelible marker
- Trash bags
- 55-gallon drums
- Ziploc bags
- Portable 12-V battery

Appendix B
Well Sampling Data Sheets

WINZLER & KELLY
CONSULTING ENGINEERS

WATER LEVEL MEASUREMENT DATA SHEET

PROJECT NAME: Mani
PROJECT NUMBER: 023430500.32002

TODAY'S DATE: 6/9/05 & 6/13/05
FIELD PERSONNEL: Pon Xayasheng

WELL NUMBER	OPEN WELL	INITIAL WATER LEVEL System ON 6/9/05		FINAL WATER LEVEL System OFF 6/13/05			COMMENTS System ON
	Time	Time	Depth to Water (ft. bgs)	Time open well	Time DTW	Depth to Water (ft. bgs)	DO (mg/L)
MW-2	10:19	10:47	9.30	9:23	10:16	9.39	1.27
MW-6	10:25	10:50	9.36	9:25	10:17	7.46	5.44
MW-5	10:29	10:51	8.16	9:26	10:19	8.30	0.35
MW-4	10:33	10:54	7.84	9:27	10:20	7.91	6.85
MW-1	10:38	10:58	8.00	9:29	10:21	8.15	9.03

Weather Conditions Today: 11:01 system shutdown

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CONSULTING ENGINEERS

WELL SAMPLING DATA SHEET

PROJECT NAME: Mani
PROJECT NUMBER: 023430500I.32002
WELL DESIGNATION: MW-1

PROJECT DATE: 6/13/05
SAMPLER: Pon Xayasaeng
SAMPLE NUMBER: MW-1

CONDITION OF WELL HEAD/VAULT/CAP & LOCK:
A. TOP OF CASING ELEVATION:
B. DEPTH TO GROUNDWATER (initial): 8.15'
C. DEPTH OF WELL: 25' MEASURED _____
D. HEIGHT OF WATER COLUMN (C-B):
E. GROUNDWATER ELEVATION (A-B):

CASING DIAMETER: 2" X 3" _____ 4" _____ OTHER _____

CALCULATED WELL VOLUME: D X V = (25-8.15)(0.163) = 2.7 gal
Volume (V) of 2" well - 0.163 gal/ft
Volume (V) of 4" well - 0.653 gal/ft

ODOR No/Slight SHEEN ND FLOATING PRODUCT THICKNESS No

PUMP TYPE: POLY BAILER _____ STAINLESS BAILER _____
ELECTRIC X OTHER _____

PUMP DEPTH:

TIME	GALLONS PURGED	NO. OF WELL VOLUMES	pH	TEMPERATURE (°F OR °C)	CONDUCTIVITY (mmhos/cm or µmhos/cm	TURBIDITY (NTU or visual)	ORP (mV)
	2.7	1	7.04	69.8	760	Clear	—
	5.4	2	7.03	68.8	715	Clear	—
	8.1	3	~~7.23~~	68.8	~~723~~	Clear	—
			6.86		723		

RECHARGE RATE (qualitative):

SAMPLER TYPE: TEFLON BAILER _____ ACRYLIC BAILER _____ DISPOSABLE BAILER _____

SAMPLES COLLECTED: PRESERVED VOA'S _____ UNPRESERVED VOA'S _____
PRESERVED LITERS _____ UNPRESERVED LITERS _____
500 ml PLASTIC BOTTLE WITH PRESERVATIVE FOR METALS:
FILTERED _____ UNFILTERED _____
OTHER _____

COMMENTS: _____

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CONSULTING ENGINEERS

WELL SAMPLING DATA SHEET

PROJECT NAME: Mani
PROJECT NUMBER: 023430500I.32002
WELL DESIGNATION: MW-2

PROJECT DATE: 6/13/05
SAMPLER: Pon Xayasaeng
SAMPLE NUMBER: MW-2

CONDITION OF WELL HEAD/VAULT/CAP & LOCK:
A. TOP OF CASING ELEVATION:
B. DEPTH TO GROUNDWATER (initial): 9.39'
C. DEPTH OF WELL: 25' MEASURED _____
D. HEIGHT OF WATER COLUMN (C-B):
E. GROUNDWATER ELEVATION (A-B):

CASING DIAMETER: 2" X 3" _____ 4" _____ OTHER _____

CALCULATED WELL VOLUME: D X V = (25-9.39' X 0.163) = 2.5 gal
Volume (V) of 2" well - 0.163 gal/ft
Volume (V) of 4" well - 0.653 gal/ft

ODOR No SHEEN No FLOATING PRODUCT THICKNESS No

PUMP TYPE: POLY BAILER _____ STAINLESS BAILER _____
ELECTRIC X OTHER _____

PUMP DEPTH:

TIME	GALLONS PURGED	NO. OF WELL VOLUMES	pH	TEMPERATURE (°F OR °C)	CONDUCTIVITY (mmhos/cm or µmhos/cm	TURBIDITY (NTU or visual)	ORP (mV)
	2.5	1	5.84	74.2	647	clear	—
	5.0	2	6.32	68.9	623	clear	—
	7.5	3	6.34	68.3	601	clear	—

RECHARGE RATE (qualitative):

SAMPLER TYPE: TEFLON BAILER _____ ACRYLIC BAILER _____ DISPOSABLE BAILER _____

SAMPLES COLLECTED: PRESERVED VOA'S _____ UNPRESERVED VOA'S _____
PRESERVED LITERS _____ UNPRESERVED LITERS _____
500 ml PLASTIC BOTTLE WITH PRESERVATIVE FOR METALS:
FILTERED _____ UNFILTERED _____
OTHER _____

COMMENTS: Hydac Meter used

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CONSULTING ENGINEERS

WELL SAMPLING DATA SHEET

PROJECT NAME: Mani
PROJECT NUMBER: 023430500I.32002
WELL DESIGNATION: MW-4

PROJECT DATE: 6/13/05
SAMPLER: Pon Xaysaeng
SAMPLE NUMBER: MW-4

CONDITION OF WELL HEAD/VAULT/CAP & LOCK:
A. TOP OF CASING ELEVATION:
B. DEPTH TO GROUNDWATER (initial): 7.91'
C. DEPTH OF WELL: 20' MEASURED _____
D. HEIGHT OF WATER COLUMN (C-B):
E. GROUNDWATER ELEVATION (A-B):

CASING DIAMETER: 2" X 3"_____ 4"_____ OTHER_____

CALCULATED WELL VOLUME: D X V = (20-7.91)(0.163) = 2 gal
Volume (V) of 2" well - 0.163 gal/ft
Volume (V) of 4" well - 0.653 gal/ft

ODOR No/Slight SHEEN No FLOATING PRODUCT THICKNESS No

PUMP TYPE: POLY BAILER _____ STAINLESS BAILER _____
ELECTRIC X OTHER _____

PUMP DEPTH:

TIME	GALLONS PURGED	NO. OF WELL VOLUMES	pH	TEMPERATURE (°F OR °C)	CONDUCTIVITY (mmhos/cm or µmhos/cm	TURBIDITY (NTU or visual)	ORP (mV)
	2	1	7.00	74.5	606	clear	—
	4	2	6.78	71.5	462	clear	—
	6	3	6.80	70.6	507	clear	—

RECHARGE RATE (qualitative):

SAMPLER TYPE: TEFLON BAILER_____ ACRYLIC BAILER_____ DISPOSABLE BAILER_____

SAMPLES COLLECTED: PRESERVED VOA'S_____ UNPRESERVED VOA'S_____
PRESERVED LITERS_____ UNPRESERVED LITERS_____
500 ml PLASTIC BOTTLE WITH PRESERVATIVE FOR METALS:
FILTERED_____ UNFILTERED_____
OTHER_____

COMMENTS:_____

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CONSULTING ENGINEERS

WELL SAMPLING DATA SHEET

PROJECT NAME: Mani
PROJECT NUMBER: 023430500I.32002
WELL DESIGNATION: MW-5

PROJECT DATE: 6/19/05
SAMPLER: Pon Xaiyaseng
SAMPLE NUMBER: MW-5

CONDITION OF WELL HEAD/VAULT/CAP & LOCK:
A. TOP OF CASING ELEVATION:
B. DEPTH TO GROUNDWATER (initial): 8.30
C. DEPTH OF WELL: 20' MEASURED _____
D. HEIGHT OF WATER COLUMN (C-B):
E. GROUNDWATER ELEVATION (A-B):

CASING DIAMETER: 2" X 3" _____ 4" _____ OTHER _____

CALCULATED WELL VOLUME: D X V = (20 - 8.30)(0.163) = 2gal
Volume (V) of 2" well - 0.163 gal/ft
Volume (V) of 4" well - 0.653 gal/ft

ODOR faint gas SHEEN No FLOATING PRODUCT THICKNESS No

PUMP TYPE: Bladder POLY BAILER _____ STAINLESS BAILER _____
ELECTRIC X OTHER _____

PUMP DEPTH:

TIME	GALLONS PURGED	NO. OF WELL VOLUMES	pH	TEMPERATURE (°F OR °C)	CONDUCTIVITY (mmhos/cm or µmhos/cm	TURBIDITY (NTU or visual)	ORP (mV)
	2	1	6.88	70.7	602	clear	-
	4	2	6.78	68.5	575	clear	-
	6	3	6.77	67.5	603	clear	-

RECHARGE RATE (qualitative):

SAMPLER TYPE: TEFLON BAILER _____ ACRYLIC BAILER _____ DISPOSABLE BAILER _____

SAMPLES COLLECTED: PRESERVED VOA'S _____ UNPRESERVED VOA'S _____
PRESERVED LITERS _____ UNPRESERVED LITERS _____
500 ml PLASTIC BOTTLE WITH PRESERVATIVE FOR METALS:
FILTERED _____ UNFILTERED _____
OTHER _____

COMMENTS: _____

WINZLER & KELLY
CONSULTING ENGINEERS

WELL SAMPLING DATA SHEET

PROJECT NAME: Mani
PROJECT NUMBER: 023430500I.32002
WELL DESIGNATION: MW-6

PROJECT DATE: 6/13/05
SAMPLER: Pon Yaiyaseng
SAMPLE NUMBER: MW-6

CONDITION OF WELL HEAD/VAULT/CAP & LOCK:
A. TOP OF CASING ELEVATION:
B. DEPTH TO GROUNDWATER (initial): 7.46'
C. DEPTH OF WELL: 20' MEASURED _____
D. HEIGHT OF WATER COLUMN (C-B):
E. GROUNDWATER ELEVATION (A-B):

CASING DIAMETER: 2" X 3" _____ 4" _____ OTHER _____

CALCULATED WELL VOLUME: D X V = (20 - 7.46)(0.163) = 2 gal
Volume (V) of 2" well - 0.163 gal/ft
Volume (V) of 4" well - 0.653 gal/ft

ODOR No SHEEN No FLOATING PRODUCT THICKNESS No

PUMP TYPE: POLY BAILER _____ STAINLESS BAILER _____
ELECTRIC X OTHER _____

PUMP DEPTH:

TIME	GALLONS PURGED	NO. OF WELL VOLUMES	pH	TEMPERATURE (°F OR °C)	CONDUCTIVITY (mmhos/cm or µmhos/cm	TURBIDITY (NTU or visual)	ORP (mV)
	2	1	6.70	69.4	588	clear	-
	4	2	6.67	69.5	584	clear	-
	6	3	6.64	68.9	590	clear	-

RECHARGE RATE (qualitative):

SAMPLER TYPE: TEFLON BAILER _____ ACRYLIC BAILER _____ DISPOSABLE BAILER _____

SAMPLES COLLECTED: PRESERVED VOA'S _____ UNPRESERVED VOA'S _____
PRESERVED LITERS _____ UNPRESERVED LITERS _____
500 ml PLASTIC BOTTLE WITH PRESERVATIVE FOR METALS:
FILTERED _____ UNFILTERED _____
OTHER _____

COMMENTS: _____

Appendix C
Analytical Laboratory Report

Analytical Sciences

Report Date: June 29, 2005

Pon Xayasaeng
Winzler & Kelly Consulting Engineers
495 Tesconi Circle, Suite 9
Santa Rosa, CA 95401-4696

LABORATORY REPORT

Project Name: **Mani** **0234305001.32002**

Lab Project Number: **5061412**

This 15 page report of analytical data has been reviewed and approved for release.

Mark A. Valentini, Ph.D.
Laboratory Director

PO Box 750336
Petaluma, CA 94975-0336
Telephone: (707) 769-3128

110 Liberty Street
Petaluma, CA 94952
Fax: (707) 769-8093

TPH Gasoline in Water

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
30210	MW-2	TPH/Gasoline	ND	50

Date Sampled: 06/13/05 Date Analyzed: 06/15/05 QC Batch #: 5587
Date Received: 06/14/05 Method: EPA 5030/8015M

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
30211	MW-6	TPH/Gasoline	ND	50

Date Sampled: 06/13/05 Date Analyzed: 06/15/05 QC Batch #: 5587
Date Received: 06/14/05 Method: EPA 5030/8015M

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
30212	MW-5	TPH/Gasoline	160	50

Date Sampled: 06/13/05 Date Analyzed: 06/15/05 QC Batch #: 5587
Date Received: 06/14/05 Method: EPA 5030/8015M

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
30213	MW-4	TPH/Gasoline	180	50

Date Sampled: 06/13/05 Date Analyzed: 06/15/05 QC Batch #: 5587
Date Received: 06/14/05 Method: EPA 5030/8015M

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
30214	MW-1	TPH/Gasoline	470	50

Date Sampled: 06/13/05 Date Analyzed: 06/15/05 QC Batch #: 5587
Date Received: 06/14/05 Method: EPA 5030/8015M

TPH Diesel in Water

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
30210	**MW-2**	**TPH/Diesel**	**ND**	50

Date Sampled:	06/13/05	Date Extracted:	06/15/05	QC Batch #:	5591
Date Received:	06/14/05	Date Analyzed:	06/15/05	Method:	EPA 3510/8015M

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
30211	**MW-6**	**TPH/Diesel**	**ND**	50

Date Sampled:	06/13/05	Date Extracted:	06/15/05	QC Batch #:	5591
Date Received:	06/14/05	Date Analyzed:	06/15/05	Method:	EPA 3510/8015M

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
30212	**MW-5**	**TPH/Diesel**	**ND**	50

Date Sampled:	06/13/05	Date Extracted:	06/15/05	QC Batch #:	5591
Date Received:	06/14/05	Date Analyzed:	06/15/05	Method:	EPA 3510/8015M

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
30213	**MW-4**	**TPH/Diesel**	**ND**	50

Date Sampled:	06/13/05	Date Extracted:	06/15/05	QC Batch #:	5591
Date Received:	06/14/05	Date Analyzed:	06/15/05	Method:	EPA 3510/8015M

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
30214	**MW-1**	**TPH/Diesel**	**130 (1)**	50

Date Sampled:	06/13/05	Date Extracted:	06/15/05	QC Batch #:	5591
Date Received:	06/14/05	Date Analyzed:	06/15/05	Method:	EPA 3510/8015M

(1) The sample does not exhibit a chromatographic pattern characteristic of diesel. Higher boiling point components of weathered gasoline are present.

Volatile Hydrocarbons by GC/MS in Water

Lab #	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
30210	**MW-2**	**benzene**	**ND**	1.0
		toluene	**ND**	1.0
		ethyl benzene	**ND**	1.0
		m,p-xylene	**ND**	1.0
		o-xylene	**ND**	1.0
		Oxygenated Gasoline Additives		
		tert-butyl alcohol (TBA)	**ND**	25
		methyl tert-butyl ether (MTBE)	**ND**	1.0
		di-isopropyl ether (DIPE)	**ND**	1.0
		ethyl tert-butyl ether (ETBE)	**ND**	1.0
		tert-amyl methyl ether (TAME)	**ND**	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	20.5	103	70 – 130
toluene-d_8 (20)	20.4	102	70 – 130
4-bromofluorobenzene (20)	19.0	95.0	70 – 130

Date Sampled: 06/13/05
Date Received: 06/14/05
Date Analyzed: 06/15/05
Method: EPA 8260B
QC Batch #: 5590

Lab #	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
30211	**MW-6**	**benzene**	**ND**	1.0
		toluene	**ND**	1.0
		ethyl benzene	**ND**	1.0
		m,p-xylene	**ND**	1.0
		o-xylene	**ND**	1.0
		Oxygenated Gasoline Additives		
		tert-butyl alcohol (TBA)	**ND**	25
		methyl tert-butyl ether (MTBE)	**ND**	1.0
		di-isopropyl ether (DIPE)	**ND**	1.0
		ethyl tert-butyl ether (ETBE)	**ND**	1.0
		tert-amyl methyl ether (TAME)	**ND**	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	20.7	104	70 – 130
toluene-d_8 (20)	20.2	101	70 – 130
4-bromofluorobenzene (20)	18.8	94.0	70 – 130

Date Sampled: 06/13/05
Date Received: 06/14/05
Date Analyzed: 06/15/05
Method: EPA 8260B
QC Batch #: 5590

Lab #	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
30212	**MW-5**	**benzene**	**ND**	1.0
		toluene	**ND**	1.0
		ethyl benzene	**ND**	1.0
		m,p-xylene	**ND**	1.0
		o-xylene	**ND**	1.0
		Oxygenated Gasoline Additives		
		tert-butyl alcohol (TBA)	**ND**	25
		methyl tert-butyl ether (MTBE)	**2.0**	1.0
		di-isopropyl ether (DIPE)	**ND**	1.0
		ethyl tert-butyl ether (ETBE)	**ND**	1.0
		tert-amyl methyl ether (TAME)	**ND**	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	20.6	103	70 – 130
toluene-d_8 (20)	20.2	101	70 – 130
4-bromofluorobenzene (20)	19.0	95.0	70 – 130

Date Sampled: 06/13/05
Date Received: 06/14/05
Date Analyzed: 06/15/05
Method: EPA 8260B
QC Batch #: 5590

Lab #	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
30213	**MW-4**	**benzene**	**ND**	1.0
		toluene	**ND**	1.0
		ethyl benzene	**ND**	1.0
		m,p-xylene	**ND**	1.0
		o-xylene	**ND**	1.0
		Oxygenated Gasoline Additives		
		tert-butyl alcohol (TBA)	**ND**	25
		methyl tert-butyl ether (MTBE)	**ND**	1.0
		di-isopropyl ether (DIPE)	**ND**	1.0
		ethyl tert-butyl ether (ETBE)	**ND**	1.0
		tert-amyl methyl ether (TAME)	**ND**	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	20.6	103	70 – 130
toluene-d_8 (20)	20.4	102	70 – 130
4-bromofluorobenzene (20)	18.8	94.0	70 – 130

Date Sampled: 06/13/05
Date Received: 06/14/05
Date Analyzed: 06/15/05
Method: EPA 8260B
QC Batch #: 5590

Lab #	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
30214	**MW-1**	**benzene**	**1.2**	1.0
		toluene	**ND**	1.0
		ethyl benzene	**22**	1.0
		m,p-xylene	**27**	1.0
		o-xylene	**5.3**	1.0
		Oxygenated Gasoline Additives		
		tert-butyl alcohol (TBA)	**ND**	25
		methyl tert-butyl ether (MTBE)	**ND**	1.0
		di-isopropyl ether (DIPE)	**ND**	1.0
		ethyl tert-butyl ether (ETBE)	**ND**	1.0
		tert-amyl methyl ether (TAME)	**ND**	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	21.0	105	70 – 130
toluene-d_8 (20)	20.5	103	70 – 130
4-bromofluorobenzene (20)	19.2	96.0	70 – 130

Date Sampled: 06/13/05
Date Received: 06/14/05
Date Analyzed: 06/15/05
Method: EPA 8260B
QC Batch #: 5590

Phosphate in Water

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30210	**MW-2**	**Phosphate (PO_4)**	**ND**	1.0

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30211	**MW-6**	**Phosphate (PO_4)**	**ND**	1.0

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30212	**MW-5**	**Phosphate (PO_4)**	**ND**	1.0

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30213	**MW-4**	**Phosphate (PO_4)**	**ND**	1.0

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30214	**MW-1**	**Phosphate (PO_4)**	**ND**	1.0

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300

Nitrate as Nitrogen in Water

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30210	**MW-2**	**Nitrate as Nitrogen (NO_3^{-1}-N)**	**1.7**	0.15

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300 (IC)

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30211	**MW-6**	**Nitrate as Nitrogen (NO_3^{-1}-N)**	**1.6**	0.15

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300 (IC)

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30212	**MW-5**	**Nitrate as Nitrogen (NO_3^{-1}-N)**	**0.16**	0.15

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300 (IC)

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30213	**MW-4**	**Nitrate as Nitrogen (NO_3^{-1}-N)**	**ND**	0.15

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300 (IC)

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30214	**MW-1**	**Nitrate as Nitrogen (NO_3^{-1}-N)**	**1.4**	0.15

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300 (IC)

Nitrite as Nitrogen in Water

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30210	**MW-2**	**Nitrite as Nitrogen (NO_2^{-1}-N)**	**ND**	0.15

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300 (IC)

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30211	**MW-6**	**Nitrite as Nitrogen (NO_2^{-1}-N)**	**ND**	0.15

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300 (IC)

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30212	**MW-5**	**Nitrite as Nitrogen (NO_2^{-1}-N)**	**ND**	0.15

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300 (IC)

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30213	**MW-4**	**Nitrite as Nitrogen (NO_2^{-1}-N)**	**ND**	0.15

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300 (IC)

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30214	**MW-1**	**Nitrite as Nitrogen (NO_2^{-1}-N)**	**ND**	0.15

Date Sampled: 06/13/05 Date Analyzed: 06/14/05 QC Batch #: 5589
Date Received: 06/14/05 Methods: EPA 300 (IC)

Ammonia as Nitrogen in Water

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30210	**MW-2**	**Ammonia as Nitrogen (NH_3-N)**	**ND**	0.15

Date Sampled: 06/13/05 | Date Analyzed: 06/20/05 | QC Batch #: 5603
Date Received: 06/14/05 | Methods: SM 4500

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30211	**MW-6**	**Ammonia as Nitrogen (NH_3-N)**	**ND**	0.15

Date Sampled: 06/13/05 | Date Analyzed: 06/20/05 | QC Batch #: 5603
Date Received: 06/14/05 | Methods: SM 4500

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30212	**MW-5**	**Ammonia as Nitrogen (NH_3-N)**	**ND**	0.15

Date Sampled: 06/13/05 | Date Analyzed: 06/20/05 | QC Batch #: 5603
Date Received: 06/14/05 | Methods: SM 4500

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30213	**MW-4**	**Ammonia as Nitrogen (NH_3-N)**	**ND**	0.15

Date Sampled: 06/13/05 | Date Analyzed: 06/20/05 | QC Batch #: 5603
Date Received: 06/14/05 | Methods: SM 4500

Lab #	Sample ID	Analysis	Result (mg/L)	RDL (mg/L)
30214	**MW-1**	**Ammonia as Nitrogen (NH_3-N)**	**ND**	0.15

Date Sampled: 06/13/05 | Date Analyzed: 06/20/05 | QC Batch #: 5603
Date Received: 06/14/05 | Methods: SM 4500

LABORATORY
QUALITY ASSURANCE REPORT

QC Batch #: 5587 **Lab Project #:** 5061412

Sample ID	Compound	Result (ug/L)
MB	TPH/Gas	ND
MB	MTBE	ND
MB	Benzene	ND
MB	Toluene	ND
MB	Ethyl Benzene	ND
MB	Xylenes	ND

Sample #	Sample ID	Compound	Result (ug/L)	Spike Level	% Recv.
30210	CMS	TPH/Gas		NS	
	CMS	Benzene	9.61	10.0	96.1
	CMS	Toluene	9.31	10.0	93.1
	CMS	Ethyl Benzene	10.2	10.0	102
	CMS	Xylenes	30.5	30.0	102

Sample #	Sample ID	Compound	Result (ug/L)	Spike Level	% Recv.	RPD
30210	CMSD	TPH/Gas		NS		
	CMSD	Benzene	9.72	10.0	97.2	1.2
	CMSD	Toluene	9.40	10.0	94.0	0.92
	CMSD	Ethyl Benzene	10.4	10.0	104	2.1
	CMSD	Xylenes	30.8	30.0	103	0.90

MB = Method Blank; LCS = Laboratory Control Sample; CMS = Client Matrix Spike; CMSD = Client Matrix Spike Duplicate
NS = Not Spiked; OR = Over Calibration Range; NR = No Recovery

QC Batch #: 5591 **Lab Project #:** 5061412

Sample ID	Compound	Result (ug/L)
MB	TPH/Diesel	ND

Sample ID	Compound	Result (ug/L)	Spike Level	% Recv.
LCS	TPH/Diesel	1,940	2,730	71.1

Sample ID	Compound	Result (ug/L)	Spike Level	% Recv.	RPD
LCSD	TPH/Diesel	1,930	2,730	70.7	0.52

MB = Method Blank; LCS = Laboratory Control Sample; CMS = Client Matrix Spike; CMSD = Client Matrix Spike Duplicate
NS = Not Spiked; OR = Over Calibration Range; NR = No Recovery

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QC Batch #: 5590 **Lab Project #:** 5061412

Sample ID	Compound Name	Result (ug/L)
MB	1,1-dichloroethene	ND
MB	benzene	ND
MB	trichloroethene	ND
MB	toluene	ND
MB	chlorobenzene	ND

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	20.5	103	70 – 130
toluene-d_8 (20)	20.4	102	70 – 130
4-bromofluorobenzene (20)	19.0	95.0	70 – 130

Sample #	Sample ID	Compound Name	Result (ug/L)	Spike Level	% Recv.
30210	CMS	1,1-dichloroethene	29.6	25.0	118
	CMS	benzene	26.3	25.0	105
	CMS	trichloroethene	25.6	25.0	102
	CMS	toluene	25.9	25.0	103
	CMS	chlorobenzene	25.2	25.0	101

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	20.3	102	70 – 130
toluene-d_8 (20)	20.1	101	70 – 130
4-bromofluorobenzene (20)	19.1	95.5	70 – 130

Sample #	Sample ID	Compound Name	Result (ug/L)	Spike Level	% Recv.	RPD
30210	CMSD	1,1-dichloroethene	28.8	25.0	115	2.7
	CMSD	benzene	26.0	25.0	104	1.1
	CMSD	trichloroethene	25.2	25.0	101	1.6
	CMSD	toluene	25.5	25.0	101	1.6
	CMSD	chlorobenzene	25.0	25.0	100	0.80

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	20.3	102	70 – 130
toluene-d_8 (20)	20.1	101	70 – 130
4-bromofluorobenzene (20)	19.3	96.5	70 – 130

MB = Method Blank; LCS = Laboratory Control Sample; CMS = Client Matrix Spike; CMSD = Client Matrix Spike Duplicate
NS = Not Spiked; OR = Over Calibration Range; NR = No Recovery

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110 Liberty Street, Petaluma, CA 94952
(707) 769-3128
Fax (707) 769-8093

CHAIN OF CUSTODY

LAB PROJECT NUMBER: 506142
WINZLER & KELLY PROJECT NAME: Mini
WINZLER & KELLY PROJECT NUMBER: 023430500.32002

CLIENT INFORMATION

COMPANY NAME: WINZLER & KELLY CONSULTING ENGINEERS
ADDRESS: 495 TESCONI CIRCLE, SUITE 9
SANTA ROSA, CA 95401-4696
CONTACT: Results: Sonya; Questions: Ron
PHONE#: (707) 523-1010
FAX #: (707) 527-8679

TURNAROUND TIME (check one)

MOBILE LAB ____ 24 HOURS ____
SAME DAY ____ 72 HOURS ____
48 HOURS ____ NORMAL X
5 DAYS ____

GEOTRACKER EDF: X Y ___ N
GLOBAL ID: T0609700725

COOLER TEMPERATURE
Blue Ice °C
COC
PAGE 1 OF 1

ANALYSIS

ITEM	CLIENT SAMPLE I.D.	DATE SAMPLED	TIME	MATRIX	# CONT.	PRESV. YES/NO	TPH/GAS/BTEX EPA 8015M/8020	TPH DIESEL / MOTOR OIL EPA 8015M	VOLATILE HYDROCARBONS EPA 8260B (FULL LIST)	BTEX & OXYGENATES + 10 OXYGENATES EPA 8260B	OXYGENATED FUEL ADDITIVES EPA 8260M	CHLORINATED SOLVENTS EPA 8010 / EPA 8260B	SEMI-VOLATILE HYDROCARBONS EPA 8270	TRPH / TOG SM 5520F / EPA 418.1M	PESTICIDES / PCB'S EPA 8081 / 8141/ 8082	Total Phosphate	Nitrate as N	Nitrite as N	Ammonia as N	COMMENTS	LAB SAMPLE . #
1	MW-2	6/13/05	12:17	W	7	Y/N	X	X		X						X	X	X	X		30210
2	MW-6	"	12:30	"	7	"	"	"		"						"	"	"	"		30211
3	MW-5	"	12:42	"	7	"	"	"		"						"	"	"	"		30212
4	MW-4	"	12:59	"	7	"	"	"		"						"	"	"	"		30213
5	MW-1	"	13:09	"	7	"	"	"		"						"	"	"	"		30214
6																					
7																					
8																					
9																					
10																					
11																					

SIGNATURES

SAMPLED BY: Ron Vayasaeng
RELINQUISHED BY: _____ 6/13/05 15:00
SIGNATURE DATE TIME
Donna Salvadori 1:42
RECEIVED BY LABORATORY: _____ 6/14/05 1:45
SIGNATURE DATE TIME

110 Liberty Street
Petaluma, CA 94952
Fax: (707) 769-8093

Analytical Sciences

Appendix D
GeoTracker Upload Verifications

Electronic Submittal Information

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Global ID:	T0609700725
Title:	1st Qtr 2005 QMR & Semi-Annual Report
Document Type:	Monitoring Report - Semi-annual
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Submittal Date/Time:	7/22/2005 5:45:29 PM
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Facility Name: MANI, RICHARD
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